

Mineral Industry Surveys

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VANADIUM IN MAY 2005

Reported domestic consumption of vanadium in May 2005 was about 4% more than that of the previous month and was about 18% more than that of May 2004, according to the U.S. Geological Survey. Consumer stocks of vanadium, in all forms, were 398 metric tons (t) at the beginning of 2005 and 312 t at the end of May.

According to Ryan's Notes (2005), U.S. ferrovanadium (FeV) prices ranged from \$56.556 to \$58.778 per pound of vanadium content in May, as compared with \$56.778 to \$58.778 in April. European FeV prices ranged from \$107.778 to \$115.000 per kilogram (kg) in May, as compared with \$119.444 to \$129.444 in April. Vanadium pentoxide (V_2O_5) prices ranged from \$25.333 to \$26.333 per pound in May as compared with \$21.556 to \$23.444 in April.

Ferrovanadium prices in the United States steadied, albeit at an extremely elevated level. Market participants reported business in the range of \$58 to \$61 per pound, slightly below the level of previous weeks, but still historically high. One industry observer noted that the rapid rise in ferrovanadium prices and the volatility of the increases shook many traders out of the

market. As a result, most business was now being done by producers, and that helped to stabilize the market (Metal Bulletin, 2005).

Aurox Resources hoped to become a low-cost vanadium producer by developing the Balla Balla vanadium-titanium-iron ore deposit in northwest Western Australia. Aurox agreed to pay A\$200,000 (\$156,000) for an option on Balla Balla. Identified resources at the site were 75 million metric tons of ore grading around 0.8% V_2O_5 with the potential to produce 4,000 metric tons per year of FeV. Under terms of the agreement, Aurox secured an exclusive 6- to 9-month review period prior to deciding whether to proceed with a bankable feasibility study (Platts Metals week, 2005).

References Cited

- Metal Bulletin, 2005, Vanadium stabilizes in USA at historic levels: Metal Bulletin, no. 8892, May 9, p. 14.
Platts Metals Week, 2005, Aurox eyes V project at Balla Balla: Platts Metals Week, v. 76, no. 18, May 2, p. 8.
Ryan's Notes, 2005, [untitled]: Ryan's Notes, v. 11, no. 23, June 6, p. 10.

TABLE 1
U.S. CONSUMPTION AND CONSUMER STOCKS OF VANADIUM, BY FORM¹

(Kilograms, contained vanadium)

	2004 ^p		2005			
			April		May	
	Consumption	Stocks	Consumption	Stocks	Consumption	Stocks
Ferrovandium ²	3,510,000	298,000	290,000 ^r	244,000	300,000	236,000
Vanadium-aluminum alloy	W	W	W	W	W	W
Other ³	214,000	101,000	20,600	75,500	21,300	75,900
Total	3,730,000	398,000	311,000 ^r	319,000	322,000	312,000

^pPreliminary. ^rRevised. W Withheld to avoid disclosing company proprietary data; included with "Other."

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes other vanadium-iron-carbon alloys as well as vanadium oxides added directly to steel.

³Includes other vanadium alloys, vanadium metal, vanadium pentoxide, vanadates, chlorides, other specialty chemicals, and items indicated by symbol W.

TABLE 2
U.S. CONSUMPTION OF VANADIUM, BY END USE¹

(Kilograms, contained vanadium)

	2004 ^p	2005		
		April	May	Year to date
Steel:				
Carbon	996,000	67,500	78,100	419,000
High-strength low-alloy	1,150,000	90,600	89,700	464,000
Stainless and heat-resisting	64,500	4,880	4,880	24,400
Full alloy	1,060,000	91,900 ^r	80,600	441,000
Tool	238,000	34,800	46,900	171,000
Total steel	3,510,000	290,000 ^r	300,000	1,520,000
Superalloys	8,350	827	779	4,230
Miscellaneous and unspecified ²	211,000	20,000	20,700	274,000
Total consumption	3,730,000	311,000 ^r	322,000	1,800,000

^pPreliminary. ^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes cast irons, alloys excluding steel and superalloys, chemical and ceramic uses, and other miscellaneous and unspecified uses.

TABLE 3
U.S. IMPORTS AND EXPORTS OF ALUMINUM-VANADIUM MASTER ALLOY AND
VANADIUM METAL, INCLUDING WASTE AND SCRAP¹

(Kilograms, gross weight)

	Aluminum-vanadium master alloy		Vanadium metal, including waste and scrap	
	Quantity	Value	Quantity	Value
Imports for consumption:				
2004	19,100	\$66,700	31,200	\$1,710,000
2005:				
February	1	3,770	475	22,700
March	--	--	1,360	80,400
April:				
Germany	--	--	9,070	285,000
Total	--	--	9,070	285,000
Year to date	1	3,770	14,000	869,000
Exports:				
2004	10,900,000	24,000,000	522,000	7,760,000
2005:				
February	677,000	1,800,000	35,600	1,150,000
March	399,000	1,280,000	22,200	547,000
April:				
Austria	--	--	51	13,800
Canada	51,600	197,000	--	--
Denmark	251	3,270	--	--
India	200	2,590	--	--
Ireland	779	10,100	--	--
Japan	73,300	948,000	17,200	663,000
Korea, Republic of	15,600	102,000	150	9,950
Malaysia	438	5,700	--	--
Mexico	772,000	1,760,000	--	--
Thailand	48,700	233,000	--	--
United Kingdom	47,300	432,000	26,500	3,100,000
Total	1,010,000	3,690,000	43,900	3,780,000
Year to date	3,340,000	9,660,000	132,000	6,160,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 4
U.S. IMPORTS AND EXPORTS OF FERROVANADIUM, VANADIUM PENTOXIDE (ANHYDRIDE) AND
OTHER OXIDES AND HYDROXIDES OF VANADIUM¹

(Kilograms, contained vanadium)

	Ferrovanadium		Vanadium pentoxide (anhydride) ²		Other oxides and hydroxides of vanadium	
	Quantity	Value	Quantity	Value	Quantity	Value
Imports for consumption:						
2004	3,020,000	\$62,100,000	1,040,000	\$8,600,000	120,000	\$1,650,000
2005:						
February	1,010,000	12,800,000	130,000	3,610,000	8,400	361,000
March	9,140,000	11,200,000	60,700	1,920,000	--	--
April:						
Austria	204	12,700	--	--	8,380	411,000
Canada	9,070	313,000	--	--	--	--
China	--	--	8,490	476,000	--	--
Czech Republic	216,000	10,600,000	--	--	--	--
Germany	--	--	--	--	5,340	178,000
Japan	13,100	123,000	--	--	--	--
Korea, Republic of	12,500	1,190,000	--	--	--	--
South Africa	--	--	119,000	5,390,000	--	--
Swaziland	54,900	2,450,000	--	--	--	--
Taiwan	--	--	7,260	143,000	--	--
Total	305,000	14,700,000	135,000	6,000,000	13,700	589,000
Year to date ³	10,700,000	48,500,000	414,000	13,200,000	30,500	1,270,000
Exports:						
2004	267,000	8,770,000	240,000	2,090,000	584,000	4,140,000
2005:						
February	9,700	550,000	5,010	100,000	58,100	1,030,000
March	21,200	705,000	--	--	27,800	283,000
April:						
Austria	--	--	--	--	24,400	217,000
Brazil	21,100	2,280,000	--	--	--	--
Belgium	--	--	4,230	214,000	--	--
Canada	16,700	550,000	--	--	12,000	107,000
Mexico	28,100	936,000	1,000	41,200	--	--
Russia	--	--	5,000	134,000	46,700	415,000
Total	65,800	3,770,000	10,200	389,000	83,100	740,000
Year to date	97,000	5,030,000	23,200	645,000	232,000	2,660,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include catalysts containing vanadium pentoxide.

³May include revisions to previous months data.

Source: U.S. Census Bureau.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF VANADIUM-BEARING ASH, SLAG¹

(Kilograms, contained vanadium pentoxide)

	Ash and residues		Ash and residues (not from the manufacture of iron and steel)		Slag, from the manufacture of iron and steel	
	Quantity	Value	Quantity	Value	Quantity	Value
2004	4,260,000	\$8,520,000	11,100,000	\$2,000,000	244,000,000	\$10,400,000
2005:						
February	129,000	239,000	499,000	98,800	149,000	522,000
March	200,000	471,000	638,000	116,000	105,000	20,200
April:						
Canada	--	--	612,000	89,900	53,300,000	632,000
Mexico	780,000	1,800,000				
South Africa	--	--	--	--	1,500,000	502,000
Total	780,000	1,800,000	612,000	89,900	54,800,000	1,130,000
Year to date	1,430,000	2,700,000	2,010,000	368,000	55,000,000	1,680,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF MISCELLANEOUS VANADIUM CHEMICALS¹

(Kilograms, contained vanadium)

	Sulfates		Vanadates	
	Quantity	Value	Quantity	Value
2004	500	\$19,100	74,700	\$1,150,000
2005:				
February	--	--	330	19,300
March	--	--	6,250	172,000
April:				
Germany	--	--	6,360	166,000
Japan	--	--	62	12,500
Korea, Republic of	--	--	4,960	25,500
Total	--	--	11,400	204,000
Year to date	--	--	18,300	417,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.